

432 MHz AND ABOVE EME NEWS

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ALLEN KATZ, K2UYH

Editor

ENGR DEPT., THE COLLEGE OF NEW JERSEY, TRENTON, NJ 08650-4700

(W 609-490-2817

OR H 443- 3184, FAX 609-443-1713, AND EMAIL:

[Allen Katz, K2UYH](mailto:Allen.Katz@cnj.edu)

PRODUCTION ASSIST: [BRIAN MULLANEY, KB2TIS](mailto:Brian.Mullaney@cnj.edu) or (609-883-6390)

NETNEWS EDITOR: [G4RGK, DAVID DIBLEY](mailto:G4RGK@cnj.edu)

EME DIRECTORY: DL4EBY/DK0TU, KLAUS TIEDEMANN,
HALSKESTR.35, D-12167 BERLIN, (49-30-7955467), E-Mail:

[Klaus Tiedemann.](mailto:Klaus.Tiedemann@cnj.edu)

[EME Directory](#)

***E-MAIL LIST COORD: [Scott KD4LT](mailto:Scott.KD4LT@cnj.edu)

*** NA EME BBS: 704-284-4854 ***

EME NETS

14.345, 10 AM ET SATURDAYS, AFTER VARO NET SUNDAYS:

- NET CONTROL and SKED COORD: JOE, K1RQG (207-469-3492), E-MAIL: [Joe, K1RQG](mailto:Joe.K1RQG@cnj.edu)
- EME STANDINGS: JIM STARKEY, W0KJY, 3845 CAPITOL DRIVE, FT.COLLINS, CO 80526, (970) 226-0669)
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CONDITIONS

The July sked weekend (SW) was pretty much a repeat of June with most reports noting low activity. On microwave EME, 3 cm appeared to be the band of choice in July. Conditions were generally good on all bands with VK4ALF reporting very good conditions on 70 cm. There is no new information on the 70 cm BY operation or any other dxpedition activity, although SP6JLW is a new 70 cm station that could provide a new country for some. I thus suspect that Aug will pretty much be a repeat of July. You may want to consider operation on the 1st week of Aug (pre-SW). This is the ARRL's UHF Contest. Moon QSOs count for contest points. The exchange is just your 4 character grid locator. I expect there will be a number of stations looking for extra grid multipliers on Saturday night/Sunday morning.

[AL7OB](#)

Mike continues to have visitors -- WA2STK visited this week, and WØSD is camped out on my lot. I am expecting a visit from WGØF later in the week, both from SD. During the SW I worked 7M2PDT (O/O) for initial #91. No progress on the azimuth indicator.

[DL1YMK](#)

Michael worked during the SW on 1296 on 14 July VE1ALQ - very good signal, nil F5PAU, VE6TA sked cancelled, WD5AGO sked cancelled and W7SZ (O/M), and on 15 July K2UYH and K9BCT. He switched to 400 W at the feed on the 15th!

[DL4KG](#)

[Geralds's](#) latest info for the NL -- I sold my TS-850 and all the transverters and it bought a new Kenwood TS-2000 including the 23 cm module. The first tests were very promising. I could copy some far beacons (~ 500 km) without a preamplifier which never happened before. The DSP is very impressive as I could dig out some weak stations off the noise. As the TS-2000 can directly drive my PA I am QRV with approx. 800 W into 4 x 29 el BV antennas. But the PA is not working as it should. When driving it with 20 W, the gain is approx. 15 dB giving 600 W output. Driving it harder with 40 W, the gain drops to 13 dB and the output is 800 W at maximum. I checked the PA, but I couldn't find the reason for the poor performance. The PA is a LZ2US design using a GS-23B. It should be good for 1500 W. Any helpful hints are very welcome.

F2TU

[Philippe's](#) EME report for June -- I am now QRV on 10 GHz with my 8 m dish. It has a 6.5 x 6.5 mm mesh, and with 17 W out of a TWTA I am getting echoes 10 to 13 dB out of the noise (the same as a 3.5 m dish)! My sun noise is 16.5 dB, 1.5/1.7 dB of moon noise, and 4 dB ground/sky. I QSO'd on random on 22 July at 0915 OK1UWA (O/O) - 10/13 dB signal and 1320 F1ANH (M/O). I will be QRV on 11/12 Aug on 23, 13, 6 and 3 cm. Please contact me via email for skeds.

IK2MMB

[Sergio](#) writes on the last SW - It was a very quiet SW. Not too many stations or QSOs, but I have to be honest I was too tired for the EU night passes and only operated a few hours on both mornings. Luckily I caught K9BCT for new one. Also heard was DL1YMK. He answered my call, but I did not identify his call sign at the time. Hopefully we will QSO next time. A week ago, I was hit by a mini tornado. Beside the wind and rain, there was hail greater than 2" in dia! There was some damage to my dish. The mesh is now badly bumped and in 3 places was 'ripped' like a cloth. From inside the house, it sounded like a bombardment! The roof seemed to 'resonate' and was shook violently by the wind. I was sure that my tropo antennas and the EME dish had flown away, but miraculously they were still in place after the storm. My W2IMU feedhorn made of 0.55 mm copper was badly dented in several places and its VSWR increased. Possibly my whole system's performance has degraded. I am of course planning to restore the dish, but it may take a while. In the meantime I will try not to miss any SWs. BTW there were 92 people injured and 2 of them are on the border line at the hospital. The overall storm damage is estimated to be over 1 billion dollars. I guess I shouldn't complain too much about the condition of my antennas.

KO7N

[Richard](#) is a new station on 432 EME from CN84ia. He has an FT847 driving a GS-23b PA to 1.5 kW out, 4 x K1FO yagis - 25s at 135' with full el, 1 dB feed loss to a 4 way PD and 0.4 dB NF LNA.

K4QI

[Rusty](#) sends his EME report -- On 1296 on 21 July, I worked: WA1JOF, W2UHI, F6ETI for an initial (#), G4CCH, DL6YDH (#), DH0OAH (same as DL6YDH - they sure sounded alike?) and OZ6OL, and on 22 July, VE6TA and WA1JOF. There was very little activity maybe because the moon was so close to the Sun, which is probably a real problem for the smaller dishes. Conditions seemed very good.

K7QX

[Jeff](#) reports - I did not make any of my 432 EME skeds in the last few weeks. I am still having difficulty with my AM-6155 (single 8930). The cavity is still only putting out 75 W. I have tried everything possible to get the power up to 300 W

with no success. I wish I could sent someone this cavity to look at. So I can not see how I can make any skeds at all until this problem is resolved. Unless someone wants to try to work a 75 W station with only 2 x 9 WL yagis. There is much better news on 1296. I now have a 10' 0.3 f/d dish. I am now only setup for minimum elevation of 30 deg. I have a VE4MA feedhorn with circular pol capability including a hybrid, dual 2C39 PA with power supply and water cooling. I should be getting my DEM transverter back with the LO stability Circuit installed. I should be ready for 1296 EME by the next SW. The specification for my dual 2C39 PM states 200 W output. Others are reporting that it is possible to get 300 watts out. Can anyone clarify this for me? Also can I hear echoes with 200 W and a 10' dish on 1296? [More output is possible with water cooling, good tubes (very important), plenty of drive and higher plate voltage - up to about 1800 volts, but the tubes can arc over and destroy them selves. I suggest a fast blow .75 amp fuse in series with the plate lines. Yes echoes are possible.]

ON6JY

Luc is now in JO20vp and bring us up to date on his status -- I have not been active on EME for a while, but today I expect to finish the construction of my new shack and will start work on the EME system. I am considering buying a DB6NT transverter with a 10 W 10 GHz PA. (I am waiting for news from OK1CA on this subject.) I plan to start on 3 cm with about 3 m dish and moved to larger diameter later. The concrete is ready and awaiting the mount. My operation should be more consistent in the future.

OZ4MM

Stig writes - During the July SW I was QRV on 432 and 1296. I found activity very low on both bands. It is pretty ironic that when I at last get some free time for EME no one is around. On 1296 I worked HB9BBD (58/58) and G4CCH (56/56) - both on SSB. Both had great signals as usual. Others QSO'd were IK2MMB (559/569), K9BCT (549/579) and F6ETI (539/519). The Next day I switched to 432 and worked UA3PTW (559/579) with a great signal, SK0CC (439/O) for initial #226, W7CNK (439/539), KA0RYT (539/549), G3HUL (549/559) and SP6JLW (O/O) #227. Also heard was G3LTF. I was listening on 2304 during a sked between ON5RR and ZS6AXT, and heard both very well. During the weekend, I had my temporary 144 dual dipole feed mounted. This gives some loss on the other bands, but not more than is acceptable. I can move the dipole out from focus to give less degradation. (I am hoping to find my last state, NB, for 144 WAS, so if anyone have info of stations who are QRV from there or are equipped for 144 EME, please let me know.

PA3DZL

Jac is now QRV on 13cm EME -- This week I finished my 13 cm EME station.

I'm using my small 2.5 m dish, which I also use for 23 cm. The 13 cm rig uses a VE4MA feed with 0.65dB NF LNA at the feed. I have a solid-state PA that gives me about 75 W output. This final is in a plastic box. I can thus put it close to the feed. At the moment the PA is in the shack and have about 45 W at the feed. I'm only allowed to TX on 2320 MHz. I have converters for 2304 - 2320 and 2424 MHz. I have had skeds with JA4BLC and OE9ERC. JA4BLC was NIL on both sides (2320 \diamond 2424). OE9ERC (2320 \diamond 2320) was peaking (549) at the end of the test, in the beginning his signals was a solid (O) copy. Unfortunately Erich could not copy my signals. His dish was 1/3 blocked by some trees at the time. I have to do some fine-tuning on the circularity of the VE4MA feed. Perhaps this will give me some extra dBs. At least the system is working and I was very happy to receive my 1st 13 cm signals off the moon! I'm temporary QRT on 23 cm EME, but QRV on 13 cm EME and interested in skeds.

SK0CC

[Sven, SM5LE](#) is operating the club station of Telia (former PTT in Sweden) -- You can find more info on SK0CC at our WEB site at:

[SKoCC WEB Page](#)

In the July SW we added QSOs with OZ4MM on random and K2UYH. I have to investigate why RX seems worse than my TX capabilities. I am often reported to be heard, but hear nothing myself. We do not hear our own echoes and have only 7 dB of sun noise. I think part of the problem may be the phasing system of our array. I plan to change the coax phasing harness from RG213 to 3/8" Heliax. This should add ~3 dB of performance to our system. This hopefully will be done by the next SW.

SM2BYA

[Gudmund](#) writes -- After a 3 year interlude on 2 m EME, I am slowly making it back on 432. All 432 operation is from my 2nd QTH, the old farm in central Sweden, locator JP81nx. Down there I am signing SM3BYA. I am still using the same 8x21 el Tonna antennas that I started out with in 1994. Last summer I did a complete overhaul of the array. I put in new phasing cables (cut to electrical length using a vector voltmeter), soldered all feedpoint connections and improved the weatherproofing. I also overhauled the RX front end and finally managed to kill a >10 GHz microwave instability that popped up from time to time. Receive performance improved markedly as a result. Overall RX NF is now 0.42 dB. TX is currently running 400 W from an old modified Collins T-282 (PP 4CX250B with lousy efficiency). I 1st put the rig on the air after the overhaul during the last hours of the DUBUS Contest in April. I worked 4 stations and copying at least 20 others. During the SW, on Sunday 24 June, I had a very nice random QSO with G4ERG. It took 55 minutes to complete, but those are the memorable ones! I also ran sked #3 with AL7OB and completed easily with Mike in just 16

minutes - it turns out the problem in the 2 earlier skeds was that my frequency calibration was 3 kHz off and we had been on different frequencies! CWNK were DL9NDD, IN3AGI, KU4F, K5AZU, LU6DW and some others. I am clearly hearing much better than I can make myself heard at this time. I will be QRV next in mid Aug. Unfortunately I can't make the SW, but I will be available for skeds on 21-24 Aug and am interested in skeds.

SV1BTR

Jimmy has moved to a new QTH in KM17vu. There is less QRM there, but since it is located on top of a hill there is lot's of wind and QRN. He already has his 2 m antenna up, but believes that in a month he will have his 70 cm system also ready. The new array will consist of 4 x 13 WL BV yagis.

VE1ALQ

Darrell reports -- I worked DL1YMK (449/559) very easily during the SW. He has a very good signal and should be quite workable on random, if both are there at the same time, hi. For smaller stations possibly a sked is recommended. I did not hear F5PAU at his sked time with the DL1. I am open for skeds on both 23 and 70 cm.

VE6TA

Grant took a lightning and had to cancel his July skeds -- I need to determine the full extent of the damage. So far only the 24 Vdc supply and the rotator are affected.

VK4AFL

Trevor's July report -- Conditions during the July SW were very good with not much Faraday evident during my windows. I QSO'd JA5OVU, HB9Q on SSB, UA3PTW, DJ3FI and AL7OB - all had excellent signals. On [my] Monday, I worked KO7N after arrangements were made by telephone. It was about the best 4 yagi signal that I have ever heard, especially considering the size of the individual antennas that make up the array. Other recent initials were DK3BU and G3LQR on random in June. There have been some comments lately regarding 432 EME activity. One suggestion was to have more contests. With quite a few stations SSB capable plus a few more that might be but don't know it, could something along the lines of the 1296 SSB Contest be organized for 432? It could be less formal than a contest such as simply setting aside a SW for 70 cm SSB activity. I believe the numbers are there to stimulate quite a bit of interest. [If someone sets a date, I will promote it in the NL. What do you think?] I can usually be available outside of the SWs at any time of the day and am always looking for some action. With the contest season now not too far away, I look forward to some more concentrated activity.

VK5MC

[Chris](#) sends news of his plans for 13 cm operation -- Regarding 13 cm or perhaps I should say 2424 (up with the JA stations - It is a bit of a messy band with different sub-bands), I have obtained a small klystron (1 kW), which seems to be performing OK. I still need to finish the receiver system and put some switching in for the various frequencies. I also need to rearrange my shack a little to fit it in. I will let you know when I am ready to go.

[W2ETI](#)

[Paul, N6TX](#) Executive Director of the SETI League reports -- The SETI League EME Beacon went offline last week for refurbishment and installation of a higher power amplifier. We'll be back in a few weeks. Watch

[SETI League Beacon](#)

for updates. I saw K5JL at Central States VHF Conference and he advised that he did hear us at the 10 W level with his 30' dish.

[W4SC](#)

[Ben](#) reports -- Progress on the 1296 EME station antenna installation has halted. Unfortunately I was caught up in NCR RIF of 120 people here in Columbia. The entire department I worked for was cut. My efforts have been on finding local employment in an effort to avoid a QTH move (too much junk to pack up is one reason). Prospects for avoiding relocation are not too brilliant. I am sorry to (possibly) dash hopes for those wanting SC on 1296 EME. I already have a few requests for skeds. If I find local employment by Sept, the dish will go up.

[W6HD](#)

[Tay](#) now has 250 w out on 10 GHz. He is up to initial #5 on 3 cm, and feels that he is ready for skeds. He has no problem hearing 3 m dishes with 20 W or so and they can hear him just fine! Tay says "If my HV transformer surgery holds out I should be a 10 GHz player in the "medium gun" category for a while."

[W7MEM](#)

[Mark](#) writes -- I got W7HAH's H frame today. It was not a M2, but the 2 six way dividers were. I also picked up a Yaesu elevation rotor, phasing lines, and a sequencer with preamp and relays. So all I need is 8 more M2 9 WL yagis. I think Shep had 12 24 element FO's or KLM's. I think this frame will accommodate 12 M2 yagis. So I hope to have 12 M2 9 WL yagis and 800 W going as soon as can get the yagis.

[W7SZ](#)

[Larry](#) reports on his July activity - I worked DL1YMK on 14 July for a 23 cm initial. He was surprisingly good copy from his 80 W. Most of July activity has been on 3 cm. I have gained 3 dB in sun noise with the combination of a new feed,

the replacing of an SMA relay with a WG switch, and "flatter" 3 m dish pedals that moved the f/d from 0.345 to 0.4. I am now receiving consistent integrated echoes and waterfall traces with 2 W out! I have received complete call sequences from W7LHL in the FSK mode of the DSP-10 Transceiver. Ernie was running only 5 W from 3 m dish. However, he only rcvd partial calls from my 2 W. With longer integration time, we may have made it. I am not sure if this was the 1st FSK copied on 3 cm, but it does prove that the wider returns at this frequency will not be a problem for this mode. I received OK1UWA sending CQ on 3 cm. Signals exceeded 12 dB over the noise at times and was easy copy by ear.

K2UYH

As reported last month, I was unable to be home for the July SW. Fortunately Marc, DL6DW assisted by Brian, KB2TIS were able to operate my station in my absence. However, Marc was scheduled to take the US licensing exams on Saturday morning and this conflicted with my one 1296 schedule. I was able to move this sked to Sunday. [Marc passed all the exams and now has a USA extra class license as AB2MM, but is thinking of changing this call.] My station was thus QRV only on Sunday. On 432 they QSO'd at 1000 SK0CC (O/O) - Marc could not hear his own echoes at this time and was surprised by the QSO's success, but heard nil in a following sked with N1BUG. When Marc and Brian tried to switch to 1296, they heard no noise from the preamps. I got involved with the problem over the telephone. It turned that squirrels had attacked my dish again and chewed through the control wires for the 1296 feed! They were able to repair the damage, but missed the sked with DL1YMK. Fortunately Michael was calling CQ when they final got things working and easily QSO'd at about 1120 DL1YMK (449/559). I made little progress on the new dish for 3 cm, but hope to ready on 10 GHz for the ARRL EME Contest. Marc is making progress on his own 23 cm system and may be QRV in Sept.

NETNEWS

by

G4RGK, DAVID DIBLEY

KB0PYO has a new email address [KB0PYO's new email address](#)

KA0RYT was on 70 cm in the July SW and had an initial with UA3PTW. Echoes were near 90 degrees. After the SW he added another initial with KO7N. He also has a drift problem with his DEM xvtr. If anyone can help email: [KA0RYT](#)

WA1JOF worked K4QI for intial #45 and W2UHI on 1296 in July. K9ZZH will

be QRV again on 23 cm soon.

NU7Z is QRV on 5.7 GHz with 155 W and hearing excellent echoes. Rick is hearing 0.8 dB of moon noise.

DL9KR QSO'd KO7N (559/559) for initial #757 and SP6JLW #759 (same as SP6OPN in JO80) on 70 cm, but heard nil K7XQ in sked. Jan reports that VK3UM is getting 19 dB sun noise on 70 cm.

SM0ERR is now back in Sweden and plans to become QRV on EME from there. He reports that 9M2BV is now QRT.

W2UHI reports that his new feed from K2AH is giving about a 1 dB improvement. Frank is now seeing S-7 echoes off the moon on 1296.

W6WE is working toward getting back on 70 cm EME.

K2DH's 18' dish is now down. Dave will start installing the 28' dish after his vacation.

VE3AX has purchased K2DH's 18' dish.

KA0Y did not make the CSVHF Conference because of an accident in which he injured his left hand. Before the accident Ken QSO'd K0YW on 23 cm.

W4OP is on 23 cm and heard WA1JOF. He is working on a 23 cm system.

PA3CSG is looking for noise diode info. Geert is now getting 1.4 dB of moon noise on 10 GHz.

KC0W hopes to be on 70 cm EME soon.

K9BCT has a new feedhorn mounted and is seeing improved sun noise of about 0.5~0.75 dB. He heard DL1YMK during their sked, but had to shut down due to VSWR from a heavy rain. He also copied G4CCH.

K5JL is not QRV and repairing his storm damaged feed.

W7CI is QRV on 1296, but will be gone most of Aug.

K5UGM has all the gear hooked up for 1296 EME including a 240 W PA, but still needs to get a dish up.

K0YW was QRV on 23 cm in July. Bruce worked KA0Y on SSB and WA1JOF, but nit from LU8EUR.

N2IQ has his new 28' dish mounted. W7CNK was active on 70 cm EME in July.

WB3BKC is measuring 12 dB of sun noise on 1296 with no adjustments yet to his 12' dish. He has only a coffee can feed, but has a 200 W PA.

DK3WG will be QRV on 70 cm for the Aug SW. Jurgen heard nil from JA8IAD in sked.

W2DRZ is listening on 1296 EME.

KM5A is getting started on 70 cm EME and is looking for activity.

FOR SALE

W4SC has **for free a 12' Paraclipse (.375 f/d) dish.** [W4SC email](#) if you are interested.

[W7MEM](#) wants 8 m2 432 9 WL yagis.

KB0PYO has for sale a matching pair of amplifiers, both use the GS23b and were built by N4PZ. Both amps have full metering, blowers, filament and grid supplies. I will also include a spare tube, the start of a power supply that has a transformer from an MRI machine that fed a single 3CX800 driving a pair of 3CX1500's, a zener string mounted on a heatsink, 4 K2AW rectifier blocks mounted on a heatsink and an aluminum rack chassis. Mark will also include 2 transformers for the screen supply. He is asking \$3,000 for the package and will personally deliver within a reasonable distance or will crate and ship for additional cost. Also for sale is a Transverters Unlimited 1296 amp. It is capable of 325 W out with 30 W of drive (18 W drive gives 225 to 250 W) with water-cooling. It is mounted in a 42" high rack cabinet with a 1500 volt 2 amp power supply that was built with a new toroidal transformer, K2AW rectifier blocks, and 2 oil filled caps. The asking price is \$500 plus shipping (truck freight) or Mark will meet you if the distance isn't too far.

WA8MOA has a 20' dish and az-el, which he must sell. If you are interested contact Bob via email at [Bob](#) or at (Robert P. Walsh, 142 West Van Buren Street, Battle Creek, Michigan 49017-3003, or Telephone (616) 962-9693, FAX (616) 962-9592.

WB7UNU is reported to have a 50' dish for sale.

VE6NA has 2 FT-736Rs, a new IC-821 much more equipment from a silent key

available.

TECHNICAL

I have information this month on a new class of dish feeds that are easy to construct and has potential for use with deep dishes. These feeds consists of a small loop positioned a small fraction of a wavelength above a reflecting plate. They can be considered a variation on a patch antenna. The air between the loop and the reflector replaces the higher loss dielectric of the Patch antenna's PC board. The loop is the equivalent of the conductive patch on top of the PC board. CT1DMK described a 70 cm version of this feed designed for 0.2 to 0.3 f/d dishes in the Brazil 2000 EME Conference Proceedings. K5VH picked up on Luis' idea and described feeds for 902 through 3456 constructed for dishes with a .35 to .45 f/d. K5VH feeds are based on work by DL4MEA in where the loop is feed directly, while Luis connects between the ring and the back plane. A table of K5VH's dimensions and photos appear near the end of this NL. [Details of Luis' feed can be found on Brazil EME Conference CD, which is beautifully produced and still available from K2UYH for \$US10.]

TABLE OF LOOP FEED DIMENSIONS (.35 TO .45 F/D DISH)

BAND	LOOP (1 WL)	REFLECTOR DIAMETER	SPACING
902	13.1"	15.7"	1.3"
1296	9.11"	10.9"	0.9"
2304	5.13"	6.15"	0.5"
3456	3.42"	4.10"	0.3"

FINAL

This NL is being written at the 35th CSVHF Society Conference. Many EMEers regularly attend this conference, which is considered to be the premier VHF/UHF gathering in NA. Two of our own, W5NZ and WA5VJB received the societies highest awards. I received a bronze medal created in the Lithuania to celebrate the 1st EME QSO with the former Soviet Union. This QSO was between myself and UK2BAS back on 11 May 1989. It was created almost 20 years ago, but did not make it to the USA until this past May. W3ZZ received the medal from Lithuania contest group at the Dayton Hamvention and arranged to present it to me a CSVHF Conference Banquet. TNX Gene.

The Italian EME contest is 15/16 Sept.

NU7Z is looking for data on EME stations active on any of the microwaveband for his Microwave Directory. Please email to [Rick](#)

[Joe, KiRQG](#) has just a few skeds for 23 cm and 70 cm. Joe notes that he is happy to make skeds for those that would like them, but that he needs your input every month. Please do not expect him to keep a running tally of your needs. Also let him know your window limits due to either/or time/obstructions if you have not done so already.

That's the news for this 29. I hope to see you all of the moon during the SW.

73 for the next 29, Al - K2UYH



EME schedules

11 AUG

Time 432.040

0530z RZ3BA/-DL7APV
0600z UA9FAD-DL7APV
0630z UA3TCF-DL7APV
0700z YO2IS -DL7APV
0730z EA8FF -DL7APV
0900z N1BUG -DL7APV
2330z DL7APV-JA7UIQ

Time 1296.050 1296.060

0930z KD4LT -DL1YMK K2UYH -DK0ZAB
1300z WA8WZG-WA1JOF
1330z VE6NA -WA1JOF

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[Return](#)

[Top Page](#)

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